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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,821	11/20/2001	Ronald J. Vidal	1757.0260001	8685
25764 7590 01/16/2007 FAEGRE & BENSON LLP PATENT DOCKETING 2200 WELLS FARGO CENTER 90 SOUTH SEVENTH STREET MINNEAPOLIS, MN 55402-3901			EXAMINER SAFAVI, MICHAEL	
			ART UNIT 3673	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
2 MONTHS		01/16/2007	PAPER	

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/988,821
Filing Date: November 20, 2001
Appellant(s): VIDAL ET AL.

Faegre & Benson LLP
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 17, 2006 appealing from the Office action mailed August 29, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is substantially correct. The rejection of claim 34 is hereby withdrawn. As a result, this appeal involves claims 1-28 and 29-33. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The rejection of claims 8, 9, 28, and 34 under 35 U.S.C. 103(a) as being unpatentable over Morishige in view of Peterson when considering the Federal Highway Administration report/publication "Prevention and Control of Highway Tunnel Fires", (FHA) has been withdrawn.

Morishige in view of Peterson when considering the Federal Highway Administration report/publication does not fairly teach "burying the ducts in the seabed" as called for in claims 8 and 9 nor "two separate and distinct conduits...housed by a multi-bore connection plate located at an end of a length of the outer duct" as is called for in claim 28 nor "an outer duct that encompasses at least two others of the plurality of ducts,...[including] a water tight seal,...[with] a region of trapped air...disposed between the outer duct and the at least two others of the plurality of ducts, and...installing the plurality of ducts...[by] eliminating the trapped air such that the plurality of ducts sinks in water" as is called for in claim 34.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

3,813,477	Fischer	5-1974
5,722,793	Peterson	3-1998

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6,164,872	Morishige	12-2000
JP 9-322371	Noji Tec KK	12-1997
EP 1,039,210	Galmont Universal Ltd. B.V.I.	9-2000
GB 2,357,944	Cityhook Limited	7-2001

U.S. Department of Transportation (Federal Highway Administration) "Prevention and Control of Highway Tunnel Fires" Bridge Technology, pages 1-14 of website printout of publication no. FHWARD-83-032 (1982)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 10, and 13-27, and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishige in view of Peterson when considering the Federal Highway Administration report/publication "Prevention and Control of Highway Tunnel Fires", (hereinafter FHA).

Morishige discloses, Figs. 38, 42, and 44, for example, installing a plurality of communication ducts and cables 6036, (cables shown by circular 6036 with the ducts shown as that part of tunnel surrounding the cables 6036), extending from one onshore first point to an offshore point or "offshore termination point", at or along 6013 or any point of 6002 extending along the seabed, as well as from another onshore second

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point to an or the same offshore point, (see Fig. 38, for example), and col. 30, lines 59-64. Sections 6002 and 6022 also constitute a plurality of communication ducts through which cables 6036 extend. As for claim 24, Morishige teaches an outer duct 6007a encompassing at least two ducts, (those ducts within which cables 6036 lie), with the outer duct. However, Morishige appears silent as to the specific procedure of how the cables are run/connected along the assembly from one point to another.

Peterson discloses installation of a plurality of cables from one onshore first point to an offshore point, or "offshore termination point", as well as from another onshore second point to an or the same offshore point, col. 1, lines 37-47; col. 2, lines 16-23; col. 3, lines 57-65; 6, lines 36-43; and co. 6, line 57 to col. 7, line 6. The cables may be placed from onshore to offshore or from offshore to onshore. The offshore point, or "offshore termination point", can be an offshore platform and may extend several kilometers including up to and more than 50 kilometers from the shore, col. 3, lines 57-65. In both Morishige and Peterson the extension of the ducts and cables can be seen as spanning a shallow region as well as a relatively deep region of water, which would inherently include a continental shelf portion of an ocean floor. Peterson teaches splice connection of cables at a "sea end" or offshore point as by a cable joint, col. 7, lines 4-7 and col. 2, lines 19-22.

FHA publication discloses, or at least suggests, communication lines extending within tunnels including tunnels advancing through a body of water. See, for example, page 5 disclosing TV surveillance within the Hampton Roads Bridge Tunnel, Va.; or page 11 disclosing telephone lines along the Chesapeake Bay Bridge Tunnel; or page

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13 and 14 disclosing telephone lines as well as fire alarm buttons and boxes within each of the Big Walker Tunnel, Va. and Caldecott Tunnel, Oakland, Ca.

To have extended the communication ducts and cables of Morishige from either onshore point to offshore point, or from offshore point to onshore point, for as much as at least 2 kilometers and up to about 20 kilometers from onshore point to an offshore point, as well as span a continental shelf in the process with the depth of an offshore point being at or less than 200 meters, thus covering all offshore intervals which would be included within a onshore to onshore span, (i.e., including all depths, lengths, and formations within the span of water), would have constituted an obvious expedient to one having ordinary skill in the art at the time the invention was made in view of Peterson with Peterson disclosing the flexibility or adaptability of either direction of point to point installation, (i.e., Peterson teaches either onshore point to offshore point, or offshore point to onshore point). To have provided for splice connections anywhere along the span of the tunnel ducts 6002/6022, thus allowing for deployment of shortened, more manageable communication cable lines as well as to distribute the necessary utilities to the various corresponding components such as lights 6033 or monitoring cameras along the tunnel, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made in view of Peterson's teachings at col. 7, lines 4-7 and col. 2, lines 19-22. With such a modification of connecting cables at one if not various points along the Morishige tunnel Morishige, as modified, would provide for first and second cables as well as third and fourth cables, 6036 of Fig. 44, with a first cable extending from a first point to an

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offshore point and connected to a second cable extending from a second point while a third cable extending from a point of location to an offshore point is connected to a fourth cable extending from another point of location. In other words, cables from opposite ends would constitute cables extending from various points onshore to a point or points offshore with ends of the cables being spliced or connected one to another. Providing for any type of "communication" cable including telephone, television or alarm cables, thus allowing use of such equipment when necessary or as a consistent monitoring arrangement, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made as taught by FHA publication.

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over United Kingdom reference 2,357,944, (U.K. '944), in view of Peterson when considering any of Fischer or European reference 1,039,201 or Japanese reference 9-322371.

U.K. '944 discloses, Figs. 4 and 10, for example, installing a plurality of communication ducts and cables 6, 8, 44, etc. extending from one onshore first point to an offshore point or "offshore termination point", including to an offshore platform, as well as from another onshore second point to an or the same offshore point, (see Figs. 7 and 10, for example). However, U.K. '944 appears silent as to the specific procedure of how the cables are run/connected along the assembly from one point to another as well as a specific teaching of a plurality of conduits to hold cables 6, 8, 44, etc.

However, Peterson discloses installation of a plurality of cables from one onshore first point to an offshore point, or "offshore termination point", as well as from another onshore second point to an or the same offshore point, col. 1, lines 37-47; col. 2, lines 16-23; col. 3, lines 57-65; 6, lines 36-43; and co. 6, line 57 to col. 7, line 6. The cables may be placed from onshore to offshore or from offshore to onshore. The offshore point, or "offshore termination point", can be an offshore platform and may extend several kilometers including up to and more than 50 kilometers from the shore, col. 3, lines 57-65. In both Morishige and Peterson the extension of the ducts and cables can be seen as spanning a shallow region as well as a relatively deep region of water, which would inherently include a continental shelf portion of an ocean floor. Peterson teaches splice connection of cables at a "sea end" or offshore point as by a cable joint, col. 7, lines 4-7 and col. 2, lines 19-22. Peterson further teaches burying cables within the undersea bed.

Further, each of Fischer, European reference '201, and Japanese reference '371 teach utilization of a conduit to lay cables within an underwater environment with Japanese reference '371 and European reference '201 teaching use of multiple conduits, Figs. 1 and 3-6 of Japanese reference '371 and Figs. 11, 13, and 15-20 of European reference '210 with each duct, (2 of European '201 and 5 or A, B, C of Japanese '371), constituting "separate and distinct conduits").

To have extended the communication ducts and cables of U.K. '944 from either onshore point to offshore point, or from offshore point to onshore point, for as much as at least 2 kilometers and up to about 20 kilometers from either onshore point to an

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offshore point as well as span a continental shelf in the process with the depth of an offshore point being at or less than 200 meters, thus covering all offshore intervals which would be included within a onshore to onshore span, (i.e., including all depths, lengths, and formations within the span of water), would have constituted an obvious expedient to one having ordinary skill in the art at the time the invention was made in view of Peterson with Peterson disclosing the flexibility or adaptability of either direction of point to point installation, (i.e., Peterson teaches either onshore point to offshore point, or offshore point to onshore point). U.K. '944 itself expresses the flexibility or adaptability of installation along and through various waterways.

To have provided for splice connections anywhere along the span of the ducts, thus allowing for deployment of shortened, more manageable communication cable lines, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made in view of Peterson's teachings at col. 7, lines 4-7 and col. 2, lines 19-22. With regard to claim 22: U.K. '944 teaches, (as in Figs. 1, 7, and 11), a plurality of cables extending from anyone of various points to an offshore location. Thus, U.K. '944 teaches a first cable extending from a first point to an offshore point and connected to a second cable extending from a second point while a third cable extending from a point of location to an offshore point is connected to a fourth cable extending from another point of location.

Providing U.K. '944 with ducts or conduits within which the cables are placed, thus assuring a well protected communication line, would have been a further obvious expedient to one having ordinary skill in the art at the time the invention was made as

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taught by any of Fischer, European reference '201, and Japanese reference '371. As stated above each of European reference '201, and Japanese reference '371 teach a plurality of ducts or conduits however, it would have been obvious to one having ordinary skill in the art to provide the resulting U.K. '944 arrangement with any number of ducts or conduits to hold the communication cables since it is well known that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further, it is well known that making an integral item or a one piece item into several pieces is of no patentable consequence In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

(10) Response to Argument

Response to Appellants' arguments with regard to claims 5, 23, 29, and 32 as rejected under 35 U.S.C. 103(a) as being unpatentable over Morishige in view of Peterson when considering the Federal Highway Administration report/publication:

Claim 5 With regard to Appellant's arguments against the rejection of claim 5, as has been set forth in lines 7-8 on page 3 of the Final Office action, the limitation of claim 5 is considered by Examiner to be inherently met by either of Morishige and Peterson. Further, as expressed within the last line on page 3 to the first line on page 4 of the Final Office action, spanning a region defined by or including a Continental Shelf would have been obvious to one having ordinary skill in the offshore cable installation art.

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Claim 23 With regard to Appellant's arguments against the rejection of claim 23, any of the Morishige communication cables 6036 would be received "at the offshore termination point" as a single cable "unassociated with a plurality of ducts" since each respective cable would lead to a single point outlet or generation point.

Claim 29 With regard to Appellant's arguments against the rejection of claim 29, Morishige teaches, (certainly suggests), fabricating the duct onshore, col. 4, lines 25-35 and col. 30, lines 59-64. One of ordinary skill in the art would not dismiss the teachings of Morishige as at lines 25-35 in col. 4 simply because Morishige desires a different approach. In fact the teachings of Morishige in general, and particularly at lines 25-35 of col. 4, disclose the same procedure set forth in paragraph 18 on page 8 of the instant specification.

Claim 32 With regard to Appellant's arguments against the rejection of claim 32, Morishige's outer duct 6007a "is not integrally attached to the plurality of ducts" (plurality of ducts being those within which communication cables 6036 lie), in the same manner and sense as is disclosed in the instant application. The outer duct is surrounding the plurality of inner ducts being indirectly attached thereto.

Response to Appellants' arguments with regard to claims 1, 16, 25, and 33 as rejected under 35 U.S.C. 103(a) as being unpatentable over Morishige in view of Peterson when considering the Federal Highway Administration report/publication:

Contrary to Appellants' assertion that "the principles of operation of Morishige and Peterson are wholly changed where the references are combined", (page 13 to the top of page 14 of the Brief), the principle feature of forming the tunnel in Morishige is still in place while being modified to establish the tunnel from either onshore point to offshore point, or from offshore point to onshore point, for as much as at least 2 kilometers and up to about 20 kilometers from onshore point to an offshore point, as is taught by Peterson. The combination of Morishige and Peterson would not require mounting massive cylinders, in some inconceivable manner, on a remote controlled and self-propelled sea plough for burying in the seabed. Morishige as modified by Peterson would simply teach to one of ordinary skill in the art to establish the Morishige tunnel from either onshore point to offshore point, or from offshore point to onshore point. The Peterson features do not have to be physically incorporated into Morishige to establish the proposed modification. Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art, *In re Keller Terry, and Davies* 208 USPQ 871.

As for Appellants' argument found on page 15 of the brief, the modification of Morishige in view of Peterson and the Federal Highway Administration report/publication does provide all the elements recited within claims 1, 16, and 25. For

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example, claim 1 recites, *a method of facilitating provision of a point-to-point cable connection between first and second points separated by an extended span of water including a first region of shallow water and a second region of relatively deep water,* (Morishige establishes a point to point connection of cables with the cables running from one offshore point, as the left side of Fig. 38, to another offshore point, as the right side of Fig. 38, with point connection offshore, as to the points of communication within the tunnel as taught by either of Morishige and FHA), *the method comprising: providing a plurality of ducts,* (plurality of ducts as can be seen in Fig. 44, see 6036 on either side), *from the first point through the first region of the extended span to an offshore termination point between the first and second points,* (shown in Morishige but also taught by Peterson), *wherein the plurality of ducts are combined to form a multiple duct conduit;* (shown in Morishige), *placing a first communication cable in one of said plurality of ducts to provide a connection between the first point and said offshore termination point;* (shown by Morishige with communication cables being taught by FHA), *receiving at said offshore termination point, a second communication cable from the second point;* (also shown by Morishige but certainly taught by Peterson to go from onshore to offshore or visa versa), *and connecting said first communication cable to said second communication cable at said offshore termination point to create the point-to-point cable connection,* (Morishige as modified would present such by virtue of the cables being connected to their respective outlets, e.g., TV surveillance, telephone lines as well as fire alarm buttons and boxes, while also extending to either point offshore as can be seen in Fig. 38 of Morishige). Thus, Morishige in view of Peterson and the

Federal Highway Administration report/publication meets all the limitations recited within the independent claims.

With regard to Appellants' argument found at the bottom of page 16 to the top of page 17 of the brief, as expressed in the rejection involving Morishige, Peterson and the Federal Highway Administration report/publication --to have provided for splice connections anywhere along the span of the tunnel ducts 6002/6022, thus allowing for deployment of shortened, more manageable communication cable lines as well as to distribute the necessary utilities to the various corresponding components such as lights 6033 or monitoring cameras along the tunnel, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made in view of Peterson's teachings at col. 7, lines 4-7 and col. 2, lines 19-22. With such a modification of connecting cables at one if not various points along the Morishige tunnel Morishige, as modified, would provide for first and second cables as well as third and fourth cables, 6036 of Fig. 44, with a first cable extending from a first point to an offshore point and connected to a second cable extending from a second point while a third cable extending from a point of location to an offshore point is connected to a fourth cable extending from another point of location. In other words, cables from opposite ends would constitute cables extending from various points onshore to a point or points offshore with ends of the cables being spliced or connected one to another.— As such, Morishige as modified would present two or more cables being connected at an offshore point.

With regard to Appellants' argument at lines 15-16 on page 17 of the brief, Morishige discloses an offshore termination point, (any point along the central section of the tunnel of Fig. 38), fed by a plurality of ducts, (i.e., ducts within which cables 6036 run).

With regard to Appellants' argument within the last three lines on page 17 of the brief, Morishige discloses, (as in Fig. 38), a plurality of ducts, (i.e., ducts within which cables 6036 run), from the first point through a first relatively shallow region to an offshore termination point, (any point along the central section of the tunnel of Fig. 38), particularly, with FHA teaching cables being connected to their respective outlets, (e.g., TV surveillance, telephone lines as well as fire alarm buttons and boxes), along the tunnel expanse, (i.e., termination points for the cables).

With regard to arguments presented at lines 9-15 on page 18 of the brief, Applicants' remarks do not offer any argument differing from those arguments against the rejection of claim 1.

With regard to arguments presented at lines 16-20 on page 18 of the brief, one having ordinary skill in the art would understand that Morishige as modified would provide for connecting cables emerging from a plurality of ducts at a termination point, (i.e., any termination point presented by Morishige as further modified by FHA would have cable ends to connect with the TV surveillance, telephone lines as well as fire alarm buttons and boxes). Thus, Morishige as modified provides an ability to connect multiple end points using a plurality of ducts, (e.g., those ducts holding cables 6036 as seen in Fig. 44), extending from a termination point, (either side of Fig. 38 or any

intermediate point thereof), to at least one of the end points, (either side of Fig. 38 or any intermediate point thereof).

Response to Appellants' arguments with regard to claims 1, 16, 25, and 33 as rejected under 35 U.S.C. 103(a) as being unpatentable over United Kingdom reference 2,357,944 in view of Peterson when considering any of Fischer or European reference 1,039,201 or Japanese reference 9-322371:

As for Appellants' arguments against the rejection of claims over U.K. '944 in view of Peterson when considering any of Fischer, European reference '210, and Japanese reference '371, Peterson has been utilized to teach direction of application of the U.K. '944 ducts, including distance from shore, while each of Fischer, European reference '210, and Japanese reference '371 had been utilized to teach application of ducts through which the U.K. '944 cables may run with each of Japanese reference '371 and European reference '201 teaching use of multiple conduits. Thus, one of ordinary skill in the art would have found it obvious to provide for multiple ducts within the U.K. environment to carry the various cables assuring a well-protected communication line.

With regard to Appellants' arguments within the first full paragraph on page 19 of the brief, U.K. '944 has been modified by any of Fischer, European reference '210, and Japanese reference '371 to establish within the U.K. '944 environment multiple ducts, (as within a single conduit), carrying multiple cables. Certainly any of Fischer, European reference '210, and Japanese reference '371 teach providing the U.K. '944 with multiple ducts through which the cables 6, 8, and 44 extend.

With regard to Appellants' arguments within the second full paragraph on page 19 through the first paragraph on page 20 of the brief, again and, as argued above with

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respect to the modification of Morishige, U.K. '944 as modified by Peterson would simply teach to one of ordinary skill in the art to establish the U.K. '944 cables from either onshore point to offshore point, or from offshore point to onshore point. The Peterson features do not have to be physically incorporated into U.K. '944 to establish the proposed modification. Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art, *In re Keller Terry, and Davies* 208 USPQ 871.

With regard to Appellants' arguments within the second full paragraph on page 20 of the brief, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one having ordinary skill in the undersea cable laying art would realize that having an outer conduit with multiple ducts, as is taught by any of Fischer, European reference '210, and Japanese reference '371, would provide for enhanced protection of the cables, (whether on land or under sea).

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



MICHAEL SAFAVI
PRIMARY EXAMINER
ART UNIT 354

M. Safavi

Conferees:

Darnell Jayne 

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